The Observer

NATIONAL GEODETIC SURVEY

APRIL 2005

April Fool's Day - 1st

Daylight Saving Time Begins - 3rd

Earth Day - 22th

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Editor

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NGS and Puerto Rico Work Together

Pictured (left to right): CDR Brian Taggart , Ing. Roberto Contron, and Dave Doyle in Puerto Rico, at the University of Puerto Rico

On February 28, a team of 10 geodetic and tidal datum specialists from NOAA's National Geodetic Survey (NGS) and Center for Operational Oceanographic Products and Services (CO-OPS), in partnership with the Puerto Rico Society of Engineers and Land Surveyors (Colegio de Ingenieros y Agrimensores de Puerto Rico), conducted a series of seminars detailing the deficiencies of Puerto Rico's geodetic vertical control system.

The event was held at the Colegio's education facility in San Juan, Puerto Rico. In attendance were more than 75 professional surveyors, engineers, students and faculty from the University of Puerto Rico, as well as staff from the Arecibo Radio Telescope National Astronomy and Ionosphere Center. The team was led by NGS Acting Deputy Director, Commander Brian Taggart. He discussed a wide range of topics affecting the availability, accuracy and practical use of height system information, provided by the NGS/CO-OPS. Topics included: Definition of the National Spatial Reference System, Continuously Operating Reference Stations, Height Modernization, Tidal Datums, Geoid Modeling and applications of LIDAR.

The team conducted a similar series of presentations during the Coastal Protection and Infrastructure Development conference in Saint Thomas, U.S. Virgin Islands (story on page 3).

State Stories - News from Montana and Idaho

Meet Curt Smith — he is a geodesist with the National Geodetic Survey (NGS), serving as the State Geodetic Advisor for Idaho and Montana.

Curt has been an employee with NGS since November 1979. He has extensive field experience in geodetic surveying, including first order leveling; performing reconnaissance for, and setting high stability geodetic control survey monuments; as well as planning, observing, processing, and adjusting survey control projects, using the Global Positioning System. He currently serves as a local contact point for questions concerning coordinate systems and datums and obtaining NGS products and services. In addition, he provides training and workshops; and various other duties, as State Geodetic Advisor.

The Idaho/Montana Advisor position is based on a contractual agreement between each of the states and NGS. Curt spends time in each office; roughly 80 percent in Idaho, and 20 percent in Montana (about 10 weeks, per year).

Curt has an office and home in Boise, Idaho, in addition to an office and home in Helena, Montana. His dual residency makes his multiple state positions possible. Speaking of his duties, Curt recently manned the NGS booth provided by the Montana Association of Registered Land Surveyors (MARLS). It was setup in the Exhibitor's Hall at the MARLS 2005 Surveyors' Conference, in Kalispell, Montana. The event took place February 23rd through the 25th of this year. The booth provided a very important "face with a name" contact, as well as an informal question and discussion forum with other federal, state, municipal and private sector surveyors.

Curt Smith, State Geodetic Advisor to Montana and Idaho

Curt also provided two seminars at the conference. The topics he covered in the first seminar were the Readjustment of the National Spatial Reference System and Height Modernization. In the second seminar, he covered the Continuously Operating Reference Stations and the Online Positioning User Service (OPUS). Curt's seminars served to provide state surveyors with an update on NGS activities, initiatives, and other issues affecting the state of Montana.

The Lewis and Clark, Corps of Discovery II commemorative marker effort is of special interest to Montana surveyors, since their state is host to two of the Lewis and Clark Bicentennial Signature Events. The local MARLS chapters have undertaken the task of establishing monuments at nine historic sites along the Lewis and Clark expedition path.

Good Coordination Starts with Good Coordinates

In an effort to continue successful operations in the United States Virgin Islands (USVI), a team of NGS staff members traveled to USVI to host a series of workshops. The conference, Coastal Protection, Infrastructure Development and Height Modernization (conference banner below), was held at the Marriot Frenchman Reef Beach Resort from March 1– 4, 2005. NGS and the office of the Lieutenant Governor of the USVI, along with representatives from Bermuda, NEVIS, the British Virgin Islands and Trinidad and Tobago, focused their energy, chiefly, on discussing Coastal Zone Issues. NGS also educated attendees about how our mapping services could serve in assisting with damage control in the event of a disaster; such as the recent tsunami of the Pacific Coast. The USVI, also, was affected by a tsunami — in 1867 when disaster struck the island of St. Croix.

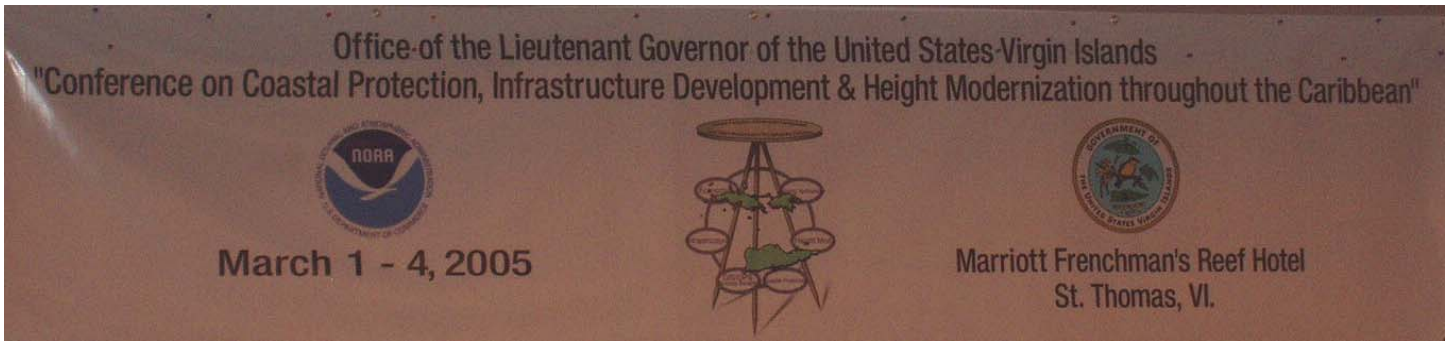
"We have to… respond better in the event of a hurricane or tsunami, said USVI's Lt. Gov. Vargrave Richards. This discussion will put us on track…."

Steven Henry of the University of the Virgin Islands discussed several topics at the conference. According to NGS staff, "he may be a perfect candidate as state advisor to the USVI."

Commander Brian Taggart addressing conference participants

The conference proved fruitful, in that: implementation plans were discussed; the necessity for a "working group/forum" between several groups in the Geo-technical arena was deemed "do-able;" and plans to re-emphasize the use and importance of tide gauge stations currently in place in Bermuda. Walter Roban, Bermuda's Junior Minister of Education and Development, shared in active discussion to boost Bermudian involvement in the re-education process.

Surprisingly (to NGS staff), a major response to the conference came from non-traditional sources, such as the American Red Cross; they expressed concern over the lack of involvement from government sources towards safety efforts.



Ocean Springs Station First on Gulf Coast

Proposed Site in Ocean Springs

NOAA and the University of Southern Mississippi's Gulf Coast Geospatial Center are partnering to build a new station that will integrate two principal means that NOAA uses to measure and maintain the spatial reference frame of the United States. The first program involves using NOAA/National Geodetic Survey's network of static controls (benchmarks) and the National Continuously Operating Reference Stations (CORS) program (newer), which use satellite-based, GPS reference stations across the United States.

The second involves the National Water Level Program, operated by NOAA's Center for Operational and Oceanographic Products and Services (CO-OPS). The backbone of this program is the National Water Level Observation Network, which consists of 175 tide and water level stations, located around the United States, and its island possessions and territories. In partnership, the tide station and CORS installation and operation in Ocean Springs, Mississippi, will link NOAA's NGS and CO-OPS, with the University of Southern Mississippi. It supports efforts such as the Height Modernization Program and the Integrated Ocean Observing System (IOOS), as well as the Water Level Program. By linking a CORS station with a long-term tide station, there are many applications these data will support; such as subsidence and relative sea level trends, storm surge monitoring, shoreline change, and restoration. This is the first joint CORS and tide station along the northern Gulf Coast.

Staff News

"All mixed up," was the summation of his ancestral background. However, Giovanni Sella is unequivocal when discussing geology and the study of the various geological systems; he can give a full synopsis. I certainly felt informed, after our interview.

Although Giovanni is, officially, a Geodesist, he's a true geologist, at heart. He works in our Crustal Deformation area, specializing in the Vertical motions; which includes subsidence, particularly in southern Louisiana, Galveston, and Houston, TX; and uplift related to post glacial rebound in Canada and the northern United States. I asked him to explain his job in layman's terms. He explained that he uses GPS to monitor how the surface of the earth deforms, and then tries to model the associated motion.

Giovanni comes most recently from a post-doctoral position at Northwestern University in Evanston, Illinois. He grew up (spending 10 years) in Kenya, which contributed to his "British" accent.

Daylight "Saving" Time

Daylight "Saving" Time (DST) was originally conceived by Benjamin Franklin during his stay as an American delegate to Paris in 1784, as he illustrated in his essay, "An Economical Project." Most people incorrectly call it Daylight Savings Time, with the "s" at the end of saving being incorrectly added. Some of Franklin's friends, inventors of the oil lamp, were so taken by the scheme that they continued corresponding with Franklin even after he returned to America.

The idea was first championed by William Willett (1857-1915), in the pamphlet "Waste of Daylight" (1907) that proposed moving clocks up 20 minutes, each of four Sundays in April, and moving them back, by the same amount, on four Sundays in September. As he

was taking an early morning a ride through Petts Wood, near Croydon, Willett was struck by the fact that the blinds of nearby houses were closed, even though the sun was fully risen. When questioned as to why he didn't simply get up an hour earlier, Willett replied with typical British humor, "What?" In his pamphlet "The Waste of Daylight" he wrote:

"Everyone appreciates the long, light evenings. Everyone laments their shortage as Autumn approaches; and everyone has given utterance to regret that the clear, bright light of an early morning during Spring and Summer months is so seldom seen or used."

DST for 2005 begins April 3rd at 2 a.m. For more information and history on DST, visit ‹http://webexhibits.org/daylightsaving/›.

Earth Day

In light of Earth Day 2005, I thought it appropriate to mention ways that staff can get involved in helping our earth remain inhabitable. Here's what I found at <http://www.earthday.net/programs/find/Eventview.aspx?ID=1773> - On Saturday, April 2, 2005, the 17th Annual Potomac River Watershed Cleanup will take place. Here's a little history — the Potomac River provides 480 million gallons of drinking water to the Washington area and 100 million gallons of ground water to rural regions. As water washes down our sidewalks and streets, then into storm drains, it carries with it whatever is in its path. Plastic bottles, Styrofoam, food wrappers, coffee cups -- you name it, and it's in our Potomac River and its tributaries! Last Spring, more than 3,500 volunteers hauled away 162 tons of trash from the Potomac River Watershed. So, please mark your calendar for April 2, 2005, as the day you can help make Our Potomac Trash-Free by taking part in a local cleanup event. Volunteers are needed to adopt new sites and to help at existing sites. To find a site near you or for more information visit WWW.POTOMACCLEANUP.ORG or contact the Alice Ferguson Foundation at 301-292-6665 or <potomaccleanup@fergusonfoundation.org>.

Editor's Corner

I hope you enjoyed reading last month's issue. This month I tried to give a little more information about our staff and community. Also, since Spring has finally sprung, I wanted to share some helpful information with you.

For instance, the Daylight Saving Time and Earth Day articles — I felt these were important, as more daylight allows increased time for surveying, mapping and tracking, as well as for personal tasks, which are generally done during daylight hours.

Furthermore, if we fail to preserve Earth and its inhabitants, neither we, nor our future generations will be able to inhabit Earth.

Additionally, since March was Women's History Month, I didn't want to leave out important contributions women have made to NOAA. I was truly inspired by the personal accounts of women who worked during World Wars I. and II. I tried to picture myself facing some of the trials they dealt with on a daily basis — I'm glad I wasn't a participant of "life" in during the 1940's. Hats off to my mom and other women who survived that era.

In future issues, I will try to incorporate more current events, as well as information and data you request. On that note, if there is anything you would like incorporated into the publication of the Observer, just drop me a line!

Tracker Stories

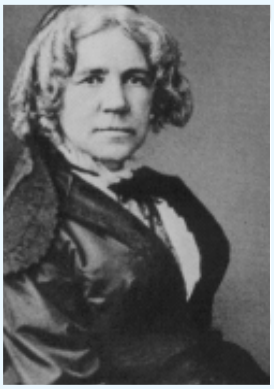
Note: When geocachers locate a cache, its contents are a mystery. See "Geocaching" in the March 2005 Observer

Upcoming Events

April 5	Alabama Height Modernization Forum in Pelham, AL. For information, visit ‹http://www.ngs.noaa.gov/heightmod/events.shtml›.
April 7	League of California Surveying Organizations' Special Meeting on "The State of NGS" in Riverside, CA. For information, contact Jay Keller at 951-955-1336.
April 20–23	Louisiana Society of Professional Surveyors' Annual Meeting and Convention in Houma, LA. For information, visit ‹http://www.lsps.net/2005/2005.htm›.
April 28	National Bring a Child to Work Day. For information, visit ‹http://www.kidsday.noaa.gov›.

Heritage Corner

March is Women's History Month — in 1987, the National Women's History Project petitioned Congress to expand the national celebration of Women's History Week to span the entire month of March. Since then, the National Women's History Month Resolution has been approved with bipartisan support in both the House and Senate. Each year, programs and activities in schools, workplaces, and communities have become more extensive as information and program ideas have been developed and shared.



Women have contributed to NOAA's heritage as well. For instance, the first woman to be hired by the federal government, under the U. S. Coast Survey (USCS), was Maria Mitchell (pictured left). She was a famous Nineteenth Century Astronomer. As a result of her sound education, skill, and dedication in working with her father — a contractor hired by the USCS to do star observations — she, in 1847, was contracted by USCS to help determine a cardinal point for latitude and longitude. Later, she went to work for the Navy Nautical Almanac Office, on a recommendation by the Superintendent of USCS, Alexander Dallas Bache. Her observations were exemplary; she discovered a comet on October 1, 1847, an accomplishment for which she received a gold medal from King Frederick of Denmark.

Maria paved the way and opened doors for other women to be hired into federal service. As early as 1854, another woman, Mary Thomas, worked with the Tidal Division of USCS, until 1890. Mary's final three years of employment was with the chart division, where she worked as a buoy colorist. Mary was probably considered the first "career" woman professional in the federal government. During her career, she hand-colored about 40,000 charts.

After Maria and Mary, employment of women in federal agencies continued to grow. For instance, by today's standards, Weather Bureau offices of the early 1940s were Spartan. Women began to enter the Weather Bureau in 1942, around the time of the first World War. When Pearl Harbor was bombed, only two women were working in the observation and forecast staff of the Bureau.

In 1942, the Weather Bureau issued the following:

OPPORTUNITY FOR WOMEN IN METEOROLOGICAL WORK

Although there has been much prejudice against and few precedents for employing women generally for professional work in meteorology, perhaps a dozen women have obtained meteorological positions in the last few years, mostly outside the government service. However, since there is at present an acute shortage of both trained meteorologists and men for observers and clerical positions in the Weather Bureau and other government agencies, airlines, etc., women with the proper qualifications (same as for men) are now being welcomed in many places where they were not encouraged even last year. (In England women have already taken over many meteorological posts, we hear.) Therefore, women with training or experience in meteorology or its branches should apply immediately for any of the current or forthcoming U.S. Civil Service examinations in meteorology which are open to them... This will be an opportunity to join the vanguard of the many women who will very likely find careers in meteorology in the not too distant future and at the same time it will be a patriotic choice in case the war should require many women to replace or supplement men as meteorologists.

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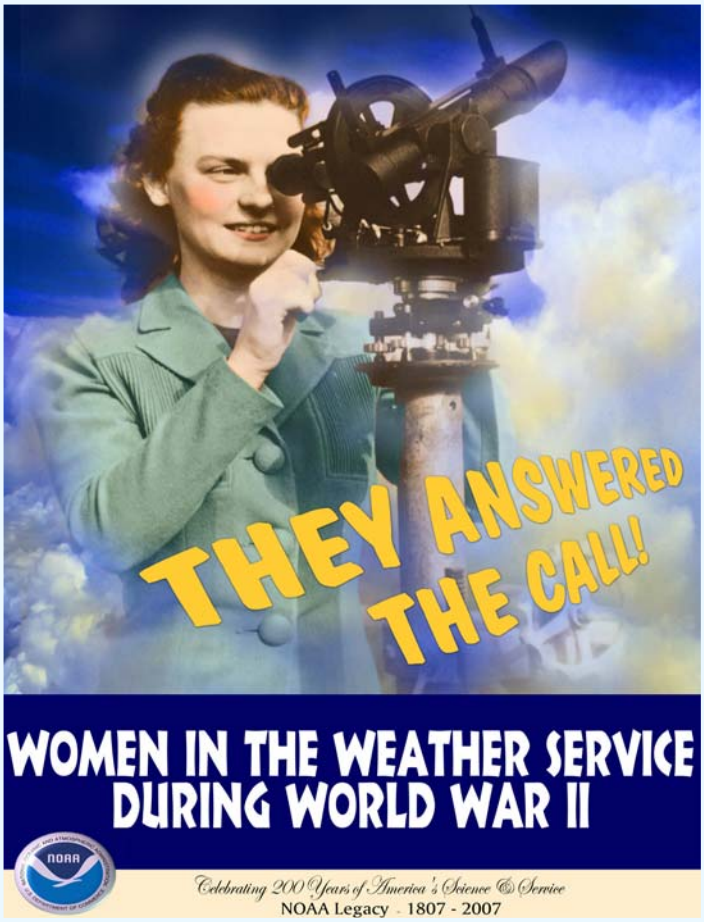
Dorothy Chambers (left) and another Weather Bureau employee plotting weather maps from teletype reports.

By 1945, over 900 women were employed by the Weather Bureau, alone, mostly, in clerical positions or as junior observers. Many women were hired as temporary employees during 1942 to ease the stress of vacant positions, as a direct result of the World War. For the most part, their positions were later changed to permanent status.

Women have certainly made milestones in the employment arena, especially the federal government. With respect to NOAA's statistics, according to the human resources office, women currently make up around 32 percent of NOAA's workforce.

Personal accounts of female employees and/or their spouse can be viewed at ‹http://www.history.noaa.gov/›; including the personal account of Dorothy Chambers, an employee at the Weather Bureau, from January 1944 to 1948. To view her story, as well as others, visit ‹http://www.history.noaa.gov/stories_tales/women1.html›.



Our mission.... to deliver and evolve the Nation's foundation of reference for latitude, longitude, height, velocity, shoreline, and gravity throughout the United States with consistency, accuracy, timeliness, currency, and easy access to support public safety, coastal stewardship, economic prosperity, and environmental well being.